AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE	OF PAGES

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. *(If applicable)*
0001	20 June 2005		

6. ISSUED BY CODE	7. ADMINISTERED BY *(If other than Item 6)* CODE
US ARMY ENGINEER DISTRICT, PHILADELPHIA CONTRACTING DIVISION WANAMAKER BUILDING 100 PENN SQUARE EAST PHILADELPHIA, PA 19107-3390	US ARMY ENGINEER DISTRICT, PHILADELPHIA POC: JOSEPH BUJNOWSKI WANAMAKER BUILDING 100 PENN SQUARE EAST PHILADELPHIA, PA 19107-3390

8. NAME AND ADDRESS OF CONTRACTOR *(No., street, county, State and ZIP Code)*	(√)	9A. AMENDMENT OF SOLICITATION NO.
	X	W912BU-05-R-0025
		9B. DATED *(SEE ITEM 11)* 17 JUNE 2005
		10A. MODIFICATION OF CONTRACTS/ORDER NO.
		10B. DATED *(SEE ITEM 13)*
CODE FACILITY CODE		

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☒ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended, ☒ is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA *(If required)*

BLDG. 29 SHIP SYSTEM SUPPORT FACILITY, NEW TESTING LAB RETROFIT, PHILA. NAVAL SHIPYARD, PHILA., PA.

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(√)	
	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: *(Specify authority)* THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES *(such as changes in paying office, appropriation date, etc.)* SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER *(Specify type of modification and authority)*

E. IMPORTANT: Contractor ☐ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION *(Organized by UCF section headings, including solicitation/contract subject matter where feasible.)*

THIS AMENDMENT DOES NOT EXTEND THE PROPOSAL DUE DATE OF 27 JUNE 2005.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER *(Type or print)*	16A. NAME AND TITLE OF CONTRACTING OFFICER *(Type or print)*

15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
_____ *(Signature of person authorized to sign)*		BY _____ *(Signature of Contracting Officer)*	

14. DESCRIPTION OF AMENDMENT (continued)

a. **SECTION 00800 – SPECIAL CONTRACT REQUIREMENTS**:

(1) SECTION 00815 – WAGE RATES – Please delete section 00815 in its entirety and substitute revised section 00815, annotated Amendment No. 0001, attached hereto.

b. **TECHNICAL SPECIFICATIONS**:

NOTE: The following sections were amended. For simplicity, the complete section is being reissued when appropriate to enable complete substitution/insertion of the section in existing hard copies. To make detection of changes easier, only those pages with changes on them are annotated with "Amendment No. 0001" in the upper right corner. In addition, changes on a page are highlighted in ***bold italics when appropriate.***

(1) Section 04200 – MASONRY: Please delete Section 04200 in its entirety and substitute revised Section 04200, annotated Amendment No. 0001, attached hereto.

c. **CONTRACT DRAWINGS:** Please delete Drawing Sheet A5 in its entirety and substitute revised drawing A5, with a revision date of 17 Jun 2005 attached hereto.

d. Please indicate receipt of this amendment on Standard Form 1442(SOLICITATION, OFFER, AND AWARD) as Amendment No. 0001. Failure to acknowledge all amendments may be cause for rejection of the offer.

General Decision Number: PA030005 06/03/2005 PA5

Superseded General Decision Number: PA020005

State: Pennsylvania

Construction Types: Building

Counties: Delaware, Montgomery and Philadelphia Counties in Pennsylvania.

BUILDING CONSTRUCTION PROJECTS (does not include residential construction consisting of single family homes and apartments up to and including 4 stories)

Modification Number	Publication Date
0	06/13/2003
1	11/14/2003
2	11/21/2003
3	12/05/2003
4	12/12/2003
5	12/19/2003
6	01/16/2004
7	02/13/2004
8	03/05/2004
9	03/12/2004
10	05/21/2004
11	05/28/2004
12	06/18/2004
13	06/25/2004
14	07/09/2004
15	07/30/2004
16	08/13/2004
17	09/24/2004
18	10/22/2004
19	01/21/2005
20	02/11/2005
21	03/04/2005
22	03/11/2005
23	04/15/2005
24	05/13/2005
25	06/03/2005

ASBE0014-001 04/25/2004

	Rates	Fringes
Asbestos Workers/Insulator (Includes the application of all insulating materials, protective coverings, coatings, and finishes to all types of mechanical systems)	$ 32.16	18.30

BOIL0013-001 01/01/2005

	Rates	Fringes
Boilermaker	$ 31.78	21.29

BRPA0001-003 05/01/2005

CHESTER, DELAWARE (Except Haverford and Radnor Township), AND MONTGOMERY

	Rates	Fringes
Bricklayer	$ 30.92	14.80

BRPA0001-006 05/01/2005

PHILADELPHIA COUNTY

	Rates	Fringes
Bricklayer	$ 31.06	14.85

BRPA0001-007 05/01/2005

DELAWARE AND MONTGOMERY COUNTIES

	Rates	Fringes
Stonemason	$ 31.12	14.83

BRPA0001-008 05/01/2005

	Rates	Fringes
Tile Setter	$ 31.73	15.25

BRPA0001-010 05/01/2005

MONTGOMERY COUNTY (Except Cheltenham and Upper Moreland Townships)

	Rates	Fringes
Bricklayer	$ 30.92	14.80

BRPA0001-011 05/01/2005

PHILADELPHIA COUNTY

	Rates	Fringes
Stonemason	$ 31.12	14.83

BRPA0035-001 09/01/2004

	Rates	Fringes

Pointer, caulker and cleaner...$ 30.75 13.25

CARP0454-006 07/01/2004

	Rates	Fringes
Piledriverman.....$	30.60	19.69+A

CARP0845-001 05/01/2005

Philadelphia County

	Rates	Fringes
Carpenter/Lather.....$	31.75	16.56

CARP0845-002 05/01/2005

DELAWARE AND MONTGOMERY COUNTIES

	Rates	Fringes
Carpenter/Lather.....$	31.25	16.56

CARP1823-001 05/01/2005

	Rates	Fringes
Soft Floor Layer.....$	32.71	16.11

CARP1906-001 07/01/2004

	Rates	Fringes
Millwright.....$	29.85	16.87

ELEC0098-003 05/02/2005

DELAWARE COUNTY: That portion east of a line following State Highway 320 from Montgomery County to Maple, then along the Springfield Road to Saxer Ave, along Saxer Avenue to Powell Road, along Powell Road to State Highway 420 and continuing in a straight line to the Delaware River.

MONTGOMERY COUNTY: That portion southeast of a line following Lower State Road from Bucks County southwest to the Bethlehem Pike (U.S Highway 309), south on the Bethlehem Pike to the Penllyn Pike, southwest on the Penllyn and Blue Bell Pikes to the Wissahickon Creek, southeast on the Wissahickon Creek to the Butler Pike to North Lane near Conshohocken Borough, southwest on North Lane to Schuylkill River and continuing southeast in a line to the Spring Mill Road and southwest on the Spring Mill Road to Delaware County.

PHILADELPHIA COUNTY - in its entirety

	Rates	Fringes
Electrician	$ 40.56	17.05

ELEC0313-004 12/01/2002

DELAWARE COUNTY: (That portion south of U.S. Highway no. 1, and west of U.S. Highway no. 202)

	Rates	Fringes
Electrician	$ 29.54	13.72

ELEC0375-002 12/01/2004

MONTGOMERY COUNTY (Upper Hanover in its entirety)

	Rates	Fringes
Electrician	$ 32.81	12%+4.73

ELEC0380-002 09/06/2004

DELAWARE COUNTY - That portion of Radnor Township north of U.S. Highway 30 and west of State Highway 320.

MONTGOMERY COUNTY - That portion northwest of a line following Lower State Road from Bucks County southwest to the Bethlehem Pike (U.S. Highway 309), south on Bethlehem Pike to the Penllyn Pike, southwest on the Penllyn and Blue Bell Pikes to the Wissahickon Creek to the Butler Pike, southwest Wissahickon Creek to the Butler Pike, southwest on the Butler Pike, to North Lane near Conshohocken Borough, southeast on North Lane to the Schuylkill River and continuing southeast in a line to the Spring Mill Road, southwest on the Spring Mill Road to Delaware County; but excluding Upper Hanover, Douglas, Upper Pottsgrove, West Pottsgrove Townships and also excluding that portion of the Borough of Pottstown north and west of a line drawn northeast on Keim Street from the schuylkill river to the Reading Railroad northwest on the railroad to Madison Street, to High Street, east on High Street to Green Street, north on Green Streeet and northeast on Mintzer Street to the Lower Pottsgrove Township Line, along this township line and the borough line northwest to Adams Street and the Beehive Road, northeast on Beehive Road to the Township Line at Mervine Street in the State of Pennsylvania.

	Rates	Fringes
Electrician	$ 33.72	15.43

ELEC0654-002 05/31/2004

DELAWARE COUNTY: That portion south of U.S. Highway 30 and north of that part of U.S. Highway 1 between U.S. Highway 202 and the Chester County Line, and east of that part of U.S.

Highway 202 betwen U.S. Highway 1 and the Delaware Line, and west of a line extending from' Montgomery County along State Route 320 to Maple, then along the Springfield Road to Saxer Avenue, along Saxer Avenue to Powell Road; along Powell Road to State Highway 420; along 420 and continuing in a straight line to the Delaware River in the State of Pennsylvania.

	Rates	Fringes
Electrician	$ 31.56	7.17+20.26%

ELEC0743-003 09/01/2004

MONTGOMERY COUNTY (Douglas, Upper Pottsgrove, West Pottsgrove, and Pottstown Twps.)

	Rates	Fringes
Electrician	$ 29.35	9.60

ELEV0005-001 01/01/2005

	Rates	Fringes
Elevator Mechanic	$ 39.695	12.015+A&B

FOOTNOTES FOR ELEVATOR MECHANICS:

A. PAID VACATION: Employer contributes 8% of basic hourly rate for 5 years or more of service or 6% for 6 months to 5 years of service.

B. PAID HOLIDAYS: New Years's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; Christmas Day and the Friday after Thanksgiving Day.

ENGI0542-002 05/01/2005

	Rates	Fringes
Power equipment operators:		
GROUP 1	$ 31.24	16.97+A
GROUP 1a	$ 34.24	17.86+A
GROUP 2	$ 30.99	16.90+A
GROUP 2a	$ 33.99	17.79+A
GROUP 3	$ 27.52	15.08+A
GROUP 4	$ 27.22	14.99+A
GROUP 5	$ 25.49	14.49+A
GROUP 6	$ 24.50	14.20+A

FOOTNOTE: A. PAID HOLIDAYS: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day and Christmas Da

TOXIC/HARARDOUS WASTE REMOVAL

Add 20 per cent to basic hourly rate for all classifications

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Handling steel and stone in connection with erection, cranes doing hook work, any machine handling machinery, helicopters, concrete pumps building machines similar to the above, including remote control equipment.

GROUP 1a: Machines handling steel, or the functional equivalent, and stone in connection with erection 15 ton and over factory rating; Cranes doing hook work 15 ton and over factory rating; Any machines handling machinery; HIgh Rail/Burro Crane 15 ton and over factory rating; Rail Loader (Winch Boom Type) 15 ton and over factory rating; Concrete Pumps (Building) 120 feet of Boom length or less (200 yard pour or less); Machines similar to above, including remote control equipment; Equipment in this Wage Group that does not require an oiler.

GROUP 2: All types of cranes, All types of backhoes, Cableways, Draglines, Keystones, all types of shovels, Derricks, Pavers 21E and over, Trenching machines, Trench shovel, Gradalls, Front-End loaders, Boat Captain, Pippin type backhoes, Tandems scrapers, Towers type crane operation erecting, Dismantling, Jumping or Jacking, Drills (self-containes), (drillmaster type) forklift (20 ft. and over), Moter patrols (fine grade), Batch plant with mixer, Carryalls, Scraper, Trounapulls, Roller (Hith Grade Finishing), Spreaders (asphalt), Bulldozers and Tractors, Mechanic welder, Conveyor loaders (euclid-type wheel), Concrete pump, Milling Machines, Hoist with two towers, Building hoist double drum (unless used as a single drum), Mucking machines in tunnel, All auto grade and concrete finishing machines, Bundle pullers/extractors (tublar), bobcat. side broom, directional boring machines, vermeer saw type machines(other than than hand held tractor mounted hydro axe, chipper with boom, all) machine similar to the above including remote control equipment.

GROUP 2a: Crawler backhoes and Crawler gradalls over one cubic yard factory rating; Hydraulic backhoes over one cubic yard factory rating; All types of cranes 15 ton and over factory rating; Cherry picker type machinery and equipment 15 ton and over factory rating; Concrete Pumps (Heavy/Highway); Machines similar to above, including remote control equipment; Equipment in this Wage Group that does not require an oiler.

GROUP 3: Asphalt plant engineers, Well drillers, Ditch witch (small trencher), Motor patrols, Fine grade machines, Ten-ton roller (grade fill stone base), Concrete breaking machines, Guilloline only, Stump grinder, Conveyors (except building conveyors), Fork lift trucks of all types, High pressure boliers Elevator Operator (New Construction) Machine similar to the above,including remote control equipment

GROUP 4: Seaman, Pulverzer form line grader, Farm tractors, road finishing, Concrete spreader, Power broom (self-contained), Seed spreader, Grease truck, toxic/hazardous wate removal rate 20 per cent added to all classifications and machiines similar to the above.

GROUP 5: Compressors pumps, Well point pumps, Welding machines Tireman, Power equipment, Maintenance engineer (power boats),Elevator Operators (Renovations) and machine similar to the above .

GROUP 6: Fireman, Oilers and deck hands (personnel boats), grease truck.

IRON0161-002 07/01/2003

DELAWARE (North of a line running along State Route 352 to right on State Route 291 to State Line); MONTGOMERY (Remainder); and PHILDELPHIA COUNTIES

	Rates	Fringes
Ironworkers:		
RIGGER, MACHINERY MOVING	$ 29.40	14.50

IRON0401-002 07/01/2004

DELAWARE (North of a line running along State Route 352 to right of State Route 291 to State Line); MONTGOMERY (Remainder); and PHILADELPHIA COUNTIES

	Rates	Fringes
Ironworkers: Structural and Ornamental	$ 37.25	17.25

IRON0405-002 07/01/2004

DEALWARE (North of line running along State Route 352 to right on State Route 291 to State Line); MONTGOMERY (Remainder); and PHILADELPHIA COUNTIES

	Rates	Fringes
Ironworkers:		
Reinforcing Steel Mesh, Rebar Work	$ 31.09	16.75

IRON0420-003 07/01/2003

MONTGOMERY COUNTY (Anise, Bergey, Congo, Douglas, East Greenfield, East Limerick, East Salford, East Zieglerville, Engelsville, Fagleysville, Ford, Gilbertsville, Green Lane, Hanover, Hopenville, Lower Pottsgrove, Marlboro, New Hanover, New Perkionenville, Nianto, Palm, Obelish, Pennsburg, Pottstown, Perkiomen, Royerford, Roytown, Sassamansville,

Tylerport, Upper Hanover, Upper Pottsgrove, Upper Woxall, West Limerick, West Salford, and West Zieglerville Townships)

	Rates	Fringes
Ironworkers:		
Projects $200,000,000 and over, All Work	$ 26.10	13.45
Projects less than $200,000,000	$ 24.10	13.45

IRON0451-005 07/01/2003

DELAWARE COUNTY (Remainder)

	Rates	Fringes
Ironworkers:	$ 26.10	15.55

STRUCTURAL, ORNAMENTAL AND REINFORCING

LABO0400-001 05/01/2005

	Rates	Fringes
Laborers:		
GROUP 1	$ 20.75	17.40
GROUP 2	$ 20.85	17.40
GROUP 3	$ 20.90	17.40
GROUP 4	$ 21.05	17.40
GROUP 5	$ 21.15	17.40
GROUP 6	$ 20.89	17.40
GROUP 7	$ 22.00	17.40
GROUP 8	$ 22.15	17.40
GROUP 9	$ 22.30	17.40
GROUP 10	$ 22.87	17.43

LABORERS CLASSIFICATIONS

GROUP 1: Stripping and dismantling concrete form work, loading, carry and handling of all reinforced steel and steel mesh, handling lumber and other building materials, operating jackhammers, paving breakers and all other pheumatic tools, building scaffolds, raking shoveling and tamping of asphalt, spading and concrete pit work, grading, form pinning, shoring, demolition except burners, laying conduits and ducts, sheathing, lagging, laying nonmetallic pipe and caulking, all other types of laborers

GROUP 2: Mason tender, power buggies, burners on demolition

GROUP 3: Wagon drill operator (single)

GROUP 4: Powdermen, wagon drill operator (multiple), circular caissons excavation: caisson groundmen, underpinning excavation: laborers, working at depth of 8 feet or under

GROUP 5: Caisson bottom man

GROUP 6: Yard workers

GROUP 7: Trackmen, Brakemen, Groutmen, Bottom Shaft Men, and All other Men in Free Air Tunnels

GROUP 8: Form Setters

GROUP 9: Blasters, Driller, Pneumatic Shield Operators

GROUP 10: Asbestos abatement laborers, hazardous waste laborers, and lead abatement laborers

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LABO0413-004 01/01/2005

	Rates	Fringes
Landscape Laborer		
Farm Tractor Driver, hydroseeder Nozzleman and Mulcher Nozzleman	$ 17.38	15.77+A
Landscape laborers	$ 16.88	15.77+A

FOOTNOTE:
A. PAID HOLIDAYS: Independence Day, Labor Day, and Thanksgiving Day.

MARB0001-003 05/01/2005

	Rates	Fringes
Marble Finisher	$ 24.75	14.65
Terrazzo Finisher	$ 28.02	14.25
Tile Finisher	$ 25.65	14.71

MARB0003-002 05/01/2005

	Rates	Fringes
Marble Setter	$ 31.12	14.83
Terrazzo Worker	$ 32.17	14.83

PAIN0021-001 05/01/2004

	Rates	Fringes
Painters:		
Brush, Roller	$ 26.85	14.45
Spray, Steel, and Swing	$ 28.10	14.45

PAIN0021-012 05/01/2004

	Rates	Fringes

Drywall Finisher.....$ 28.39 14.65

PAIN0252-001 06/01/2004

Rates Fringes

Window Tinter.....$ 17.87 5.79

PAIN0252-006 05/01/2004

Rates Fringes

Glazier.....$ 28.85 15.75

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* PLAS0008-001 05/01/2005

Rates Fringes

Plasterer.....$ 29.85 16.45

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* PLAS0592-011 05/01/2005

Rates Fringes

Cement Mason.....$ 27.25 18.81

PLUM0690-002 05/01/2004

Rates Fringes

Plumber.....$ 36.13 17.71

ROOF0030-001 05/01/2004

Rates Fringes

Roofers:
Composition.....$ 26.00 15.45+A

FOOTNOTE (Composition Roofer only):
A. PAID HOLIDAY: Election Day

SFPA0692-001 05/01/2005

Rates Fringes

Sprinkler Fitter.....$ 41.77 11.80

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* SHEE0019-008 05/01/2005

Rates Fringes

Sheet metal worker.....$ 33.32 24.26

TEAM0470-001 05/01/2005

	Rates	Fringes
Truck Driver (BUILDING CONSTRUCTION)		
GROUP 1	$ 21.70	10.8225+A+B
GROUP 2	$ 21.80	10.8225+A+B
GROUP 3	$ 22.05	10.8225+A+B
Truck drivers: (SITE PREPARATION, PAVING AND UTILITIES ON BUILDING CONSTRUCTION)		
GROUP 1	$ 21.55	10.8225+A+B
GROUP 2	$ 221.65	10.8225+A+B
GROUP 3	$ 21.90	10.8225+A+B

TRUCK DRIVERS CLASSIFICATIONS (BUILDING CONSTRUCTION)

GROUP 1 - Stake body truck (single axle), 11/2 ton and under vehicles

GROUP 2 - Truck driver over 11/2 tons, dump trucks, tandem and batch trucks, semi-trailers, agitator mixer trucks and dumcrete type vehicle, asphalt distributors, farm tractors when used for transportation, stake body truck (tandem)

GROUP 3 - Euclid type, off-highway equipment - back or belly dump trucks and double-hitched equipment, straddle (ross) carrier, lowbed trailers

TRUCK DRIVERS CLASSIFICATIONS (SITE PREPARATION, PAVING AND UTILITIES ON BUILDING CONSTRUCTION)

GROUP 1 - Stake body truck (single axle), dumpster

GROUP 2 - Dumpt trucks, tandem and batch trucks, semi-trailers, agitator mixer trucks, and dumpcrete type vehicles, asphalt distributors, farm tractor when used for transportation, stake body truck (tandem)

GROUP 3 - Euclid type, off-highway equipment or bell dump trucks and double hitched equipment, staddle (ross) carrier, low-bed trailers

FOOTNOTE:

A. PAID HOLIDAYS: Memorial Day, Independence Day, Labor Day, Thanksgiving Day and five personal holidays provided employee works at least one day in the three work days before and at least one day in the three work days after the said holiday. Emloyee earns a personal holiday every two months, provided employee has worked twenty-six day in each consecutive two month period, up to a maximum of five per calendar year. After 130 work days the employee is entitled to all five personal holidays.

B. PAID VACATION: Employee will earn one vacation day for

every two months, provided employee has worked twenty-six day in each consecutive two month period, up to a maximum of five vacation days per calendar year. After 130 workdays the employee is entitled to all five days of vacation. Employees with 5 years of seniority, earn an additional week of vacation, accrued in the same way.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations

Wage and Hour Division

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

SECTION 04200

MASONRY

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ACI INTERNATIONAL (ACI)

ACI 318M/318RM	(2002) Metric Building Code Requirements for Structural Concrete and Commentary
ACI 530/530.1	(2002) Building Code Requirements for Masonry Structures and Specifications for Masonry Structures and Commentaries

ASTM INTERNATIONAL (ASTM)

ASTM A 153/A 153M	(2004) Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A 615/A 615M	(2004b) Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
ASTM A 82	(2002) Steel Wire, Plain, for Concrete Reinforcement
ASTM C 1019	***(2003) Sampling and Testing Grout***
ASTM C 1072	(2000a) Measurement of Masonry Flexural Bond Strength
ASTM C 1142	(1995; R 2001) Extended Life Mortar for Unit Masonry
ASTM C 129	(2003) Nonloadbearing Concrete Masonry Units
ASTM C 140	(2003) Sampling and Testing Concrete Masonry Units and Related Units
ASTM C 144	(2003) Aggregate for Masonry Mortar
ASTM C 150	(2004a) Portland Cement
ASTM C 207	(2004) Hydrated Lime for Masonry Purposes
ASTM C 270	(2004a) Mortar for Unit Masonry
ASTM C 476	***(2002) Grout for Masonry***

ASTM C 494/C 494M	(2004) Chemical Admixtures for Concrete
ASTM C 641	(1998e1) Staining Materials in Lightweight Concrete Aggregates
ASTM C 780	(2002) Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry
ASTM C 881	(1999) Epoxy-Resin-Base Bonding Systems for Concrete
ASTM C 90	(2003) Loadbearing Concrete Masonry Units
ASTM C 91	(2003a) Masonry Cement
ASTM C 94/C 94M	***(2004a) Ready-Mixed Concrete***
ASTM E 119	(2000a) Fire Tests of Building Construction and Materials

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-05 Design Data

Pre-mixed Mortar; G, DO
Unit Strength Method; G, DO

Pre-mixed mortar composition. Calculations and certifications of masonry unit and mortar strength.

SD-06 Test Reports

Masonry Cement; G, DO
Fire-rated CMU; G, DO

Test reports from an approved independent laboratory. Test reports on a previously tested material shall be certified as the same as that proposed for use in this project.

Special Inspection; G, DO

Copies of masonry inspector reports.

SD-07 Certificates

Concrete Masonry Units (CMU)

Reinforcing Steel Bars and Rods
Masonry Cement

Admixtures for Masonry Mortar
Admixtures for Grout

Certificates of compliance stating that the materials meet the specified requirements.

SD-08 Manufacturer's Instructions

Masonry Cement

When masonry cement is used, submit the manufacturer's printed instructions on proportions of water and aggregates and on mixing to obtain the type of mortar required.

1.3 DELIVERY, HANDLING, AND STORAGE

Materials shall be delivered, handled, stored, and protected to avoid chipping, breakage, and contact with soil or contaminating material.

1.3.1 Masonry Units

Concrete masonry units shall be covered or protected from inclement weather. Store Type II, concrete masonry units at the site for a minimum of 28 days for air cured units, 10 days for atmospheric steam or water cured units, and 3 days for units cured with steam at a pressure of 120 to 150 psi and at a temperature of 350 to 365 degrees F for at least 5 hours. Protect moisture controlled units (Type I) from rain and ground water. Prefabricated lintels shall be marked on top sides to show either the lintel schedule number or the number and size of top and bottom bars.

1.3.2 Reinforcement

Steel reinforcing bars, and joint reinforcement shall be stored above the ground. Steel reinforcing bars and uncoated ties shall be free of loose mill scale and rust.

1.3.3 Cementitious Materials, Sand and Aggregates

Cementitious and other packaged materials shall be delivered in unopened containers, plainly marked and labeled with manufacturers' names and brands. Cementitious material shall be stored in dry, weathertight enclosures or be completely covered. Cement shall be handled in a manner that will prevent the inclusion of foreign materials and damage by water or dampness. Sand and aggregates shall be stored in a manner to prevent contamination or segregation.

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS

The source of materials which will affect the appearance of the finished work shall not be changed after the work has started except with Contracting Officer's approval.

2.2 CONCRETE MASONRY UNITS (CMU)

Cement shall have a low alkali content and be of one brand. Units shall be of modular dimensions and air, water, or steam cured. Exposed surfaces of units shall be smooth and of uniform texture.

a. Hollow Non-Load-Bearing Units: ASTM C 129, Type I or II, made with lightweight or normal weight aggregate. Load-bearing units

may be provided in lieu of non-load-bearing units.

b. Solid Load-Bearing Units: ASTM C 90, Type I or II, lightweight or normal weight units. Provide solid units where necessary to fill out at corners.

2.2.1 Aggregates

Lightweight aggregates and blends of lightweight and heavier aggregates in proportions used in producing the units, shall comply with the following requirements when tested for stain-producing iron compounds in accordance with ASTM C 641: by visual classification method, the iron stain deposited on the filter paper shall not exceed the "light stain" classification.

2.2.2 Kinds and Shapes

Units shall be modular in size and shall include closer, jamb, header, lintel, and special shapes and sizes to complete the work as indicated. In exposed interior masonry surfaces, units having a bullnose shall be used for vertical external corners except at door. Radius of the bullnose shall be 1 inch. Units used in exposed masonry surfaces shall have a uniform fine to medium texture and a uniform color.

2.2.3 Fire-Rated CMU

Concrete masonry units used in fire-rated construction shown on the drawings shall be of minimum equivalent thickness for the fire rating indicated and the corresponding type of aggregates indicated in TABLE I. Units containing more than one of the aggregates listed in TABLE I will be rated on the aggregate requiring the greater minimum equivalent thickness to produce the required fire rating. Construction shall conform to ASTM E 119.

TABLE I

FIRE-RATED CONCRETE MASONRY UNITS

See note (a) below

Aggregate Type	Minimum equivalent thickness inches for fire rating of: 4 hours	3 hours	2 hours
Pumice	4.7	4.0	3.0
Expanded slag	5.0	4.2	3.3
Expanded clay, shale, or slate	5.7	4.8	3.7
Limestone, scoria, cinders or unexpanded slag	5.9	5.0	4.0
Calcareous gravel	6.2	5.3	4.2
Siliceous gravel	6.7	5.7	4.5

(a) Minimum equivalent thickness shall equal net volume as determined in conformance with ASTM C 140 divided by the product of the actual length and height of the face shell of the unit in inches. Where walls are to form an assembly; the thickness of other material in the assembly will be included in determining the equivalent thickness.

2.3 PRECAST CONCRETE ITEMS

Lintels, shall be factory-made units from a plant regularly engaged in producing precast concrete units. Unless otherwise indicated, concrete shall be 3000 psi minimum conforming to Section 03307 CONCRETE FOR MINOR STRUCTURES using 1/2 inch to No. 4 nominal-size coarse aggregate, and minimum reinforcement shall be the reinforcement required for handling of the units. Clearance of 3/4 inch shall be maintained between reinforcement and faces of units. Unless precast-concrete items have been subjected during manufacture to saturated-steam pressure of at least 120 psi for at least 5 hours, the items, after casting, shall be either damp-cured for 24 hours or steam-cured and shall then be aged under cover for 28 days or longer. Cast-concrete members weighing over 80 pounds shall have built-in loops of galvanized wire or other approved provisions for lifting and anchoring. Units shall have beds and joints at right angles to the face, with sharp true arises and shall be cast with drip grooves on the underside where units overhang walls. Exposed-to-view surfaces shall be free of surface voids, spalls, cracks, and chipped or broken edges. Precast units exposed-to-view shall be of uniform appearance and color. Unless otherwise specified, units shall have a smooth dense finish. Prior to use, each item shall be wetted and inspected for crazing. Items showing evidence of dusting, spalling, crazing, or having surfaces treated with a protective coating will be rejected.

2.3.1 Lintels

Precast lintels, unless otherwise shown, shall be of a thickness equal to the wall and reinforced with two No. 4 bars for the full length. Top of lintels shall be labeled "TOP" or otherwise identified and each lintel shall be clearly marked to show location in the structure. In reinforced masonry, lintels shall conform to ACI 318M/318RM for flexural and shear strength and shall have at least 8 inches bearing at each end. Reinforcement shall conform to ASTM A 615/A 615M Grade 60. Limit lintel deflection due to dead plus live load to L/600 or 0.3 inches. Provide top and bottom bars for lintels over 36 inches in length.

2.4 MASONRY MORTAR

Type M mortar shall conform to ASTM C 270 and shall be used for foundation walls. Mortar Type S shall conform to the proportion specification of ASTM C 270 except Type S cement-lime mortar proportions shall be 1 part cement, 1/2 part lime and 4-1/2 parts aggregate. When masonry cement ASTM C 91 is used the maximum air content shall be limited to 12 percent and performance equal to cement-lime mortar shall be verified. Verification of masonry cement performance shall be based on ASTM C 780 and ASTM C 1072. Cement shall have a low alkali content and be of one brand. Aggregates shall be from one source.

2.4.1 Admixtures for Masonry Mortar

In cold weather, a non-chloride based accelerating admixture may be used subject to approval. Accelerating admixture shall be non-corrosive, shall

contain less than 0.2 percent chlorides, and shall conform to ASTM C 494/C 494M, Type C.

2.4.2 Hydrated Lime and Alternates

Hydrated lime shall conform to ASTM C 207, Type N. Lime alternates which have a current ICBO, ICBO UBC, Evaluation Report number whose findings state it may be used as an alternate to lime for Type M, S, N, and O mortars will be deemed acceptable provided the user follows the manufacturer's proportions and mixing instructions as set forth in ICBO report.

2.4.3 Cement

Portland cement shall conform to ASTM C 150, Type I. Masonry cement shall conform to ASTM C 91, Type N. Containers shall bear complete instructions for proportioning and mixing to obtain the required types of mortar.

2.4.4 Pre-Mixed Mortar

Pre-mixed mortar shall conform to ASTM C 1142, Type RM.

2.4.5 Sand and Water

Sand shall conform to ASTM C 144. Water shall be clean, potable, and free from substances which could adversely affect the mortar.

2.5 GROUT AND READY-MIXED GROUT

Grout shall conform to ASTM C 476, fine. Cement used in grout shall have a low alkali content. Grout slump shall be between 8 and 10 inches. Minimum grout strength shall be 2000 psi in 28 days, as tested by ASTM C 1019. Grout shall be used subject to the limitations of Table III. Proportions shall not be changed and materials with different physical or chemical characteristics shall not be used in grout for the work unless additional evidence is furnished that the grout meets the specified requirements. Ready-Mixed grout shall conform to ASTM C 94/C 94M.

2.5.1 Admixtures for Grout

In cold weather, a non-chloride based accelerating admixture may be used subject to approval; accelerating admixture shall be non-corrosive, shall contain less than 0.2 percent chlorides, and shall conform to ASTM C 494/C 494M, Type C. In general, air-entrainment, anti-freeze or chloride admixtures shall not be used except as approved by the Contracting Officer.

2.5.2 Grout Barriers

Grout barriers for vertical cores shall consist of fine mesh wire, fiberglass, or expanded metal.

2.6 JOINT REINFORCEMENT

Joint reinforcement shall be factory fabricated from steel wire conforming to ASTM A 82, welded construction. Tack welding will not be acceptable in reinforcement used for wall ties. Wire shall have zinc coating conforming to ASTM A 153/A 153M, Class B-2. All wires shall be a minimum of 9 gauge.

Reinforcement shall be ladder type design, having one longitudinal wire in the mortar bed of each face shell. Joint reinforcement shall be placed a minimum of 5/8 inch cover from either face. The distance between crosswires shall not exceed 16 inches. Joint reinforcement for straight runs shall be furnished in flat sections not less than 10 feet long. Joint reinforcement shall be provided with factory formed corners and intersections. If approved for use, joint reinforcement may be furnished with adjustable wall tie features.

2.7 REINFORCING STEEL BARS AND RODS

Reinforcing steel bars and rods shall conform to ASTM A 615/A 615M, Grade 60.

2.8 EPOXY RESIN GROUT

ASTM C 881 Type IV, Grade 2, Class C with or without mineral filler.

PART 3 EXECUTION

3.1 PREPARATION

Prior to start of work, masonry inspector shall verify the applicable c onditions as set forth in ACI 530/530.1, inspection. The Contracting Officer will serve as inspector or will select a masonry inspector.

3.1.1 Stains

Potect exposed surfaces from mortar and other stains. When mortar joints are tooled, remove mortar from exposed surfaces with fiber brushes and wooden paddles. Protect base of walls from splash stains by covering adjacent ground with sand, sawdust, or polyethylene.

3.1.2 Loads

Do not apply uniform loads for at least 12 hours or concentrated loads for at least 72 hours after masonry is constructed. Provide temporary bracing as required.

3.1.3 Surfaces

Surfaces on which masonry is to be placed shall be cleaned of laitance, dust, dirt, oil, organic matter, or other foreign materials and shall be slightly roughened to provide a surface texture with a depth of at least 1/8 inch. Sandblasting shall be used, if necessary, to remove laitance from pores and to expose the aggregate.

3.2 LAYING MASONRY UNITS

Coordinate masonry work with the work of other trades to accommodate built-in items and to avoid cutting and patching. Masonry units shall be laid in running bond pattern. Each unit shall be adjusted to its final position while mortar is still soft and plastic. Units that have been disturbed after the mortar has stiffened shall be removed, cleaned, and relaid with fresh mortar. Air spaces, cavities, expansion joints, and spaces to be grouted shall be kept free from mortar and other debris. Units used in exposed masonry surfaces shall be selected from those having the least amount of chipped edges or other imperfections detracting from the appearance of the finished work. Vertical joints shall be kept plumb.

Units being laid and surfaces to receive units shall be free of water film and frost. Units shall be shoved into place so that the vertical joints are tight. Vertical face shells of concrete masonry units, except where indicated at control, expansion, and isolation joints, shall be completely filled with mortar. Mortar will be permitted to protrude up to 1/2 inch into the space or cells to be grouted. Means shall be provided to prevent mortar from dropping into the space below.

3.2.1 Forms and Shores

Provide bracing and scaffolding as required. Forms and shores shall be sufficiently rigid to prevent deflections which may result in cracking or other damage to supported masonry and sufficiently tight to prevent leakage of mortar and grout. Supporting forms and shores shall not be removed in less than 10 days.

3.2.2 Reinforced Concrete Masonry Units Walls

Where vertical reinforcement occurs, fill cores solid with grout. Lay units in such a manner as to preserve the unobstructed vertical continuity of cores to be filled. Embed the adjacent webs in mortar to prevent leakage of grout. Remove mortar fins protruding from joints before placing grout. Minimum clear dimensions of vertical cores shall be 2 by 3 inches. Position reinforcing accurately as indicated before placing grout. As masonry work progresses, secure vertical reinforcing in place at vertical intervals not to exceed 160 bar diameters. Use puddling rod or vibrator to consolidate the grout. Minimum clear distance between masonry and vertical reinforcement shall be not less than 1/2 inch. Unless indicated or specified otherwise, form splices by lapping bars not less than 40 bar diameters and wire tying them together.

3.2.3 Concrete Masonry Units

Units in starting courses on footings, solid foundation walls, lintels, and beams, and where cells are to be filled with grout shall be full bedded in mortar under both face shells and webs. Other units shall be full bedded under both face shells. Head joints shall be filled solidly with mortar for a distance in from the face of the unit not less than the thickness of the face shell. Foundation walls below grade shall be grouted solid. Jamb units shall be of the shapes and sizes to conform with wall units. Solid units may be incorporated in the masonry work where necessary to fill out at corners, and elsewhere as approved.

3.2.4 Tolerances

Masonry shall be laid plumb, true to line, with courses level. Bond pattern shall be kept plumb throughout. Corners shall be square unless noted otherwise. Masonry shall be laid within the following tolerances (plus or minus unless otherwise noted):

TABLE II

TOLERANCES

Variation from the plumb in the lines and surfaces of columns, walls and arises	
In adjacent masonry units	1/8 inch

TOLERANCES	
In 10 feet	1/4 inch
In 20 feet	3/8 inch
In 40 feet or more	1/2 inch
Variations from the plumb for external corners, expansion joints, and other conspicuous lines	
In 20 feet	1/4 inch
In 40 feet or more	1/2 inch
Variations from the level for exposed lintels, and other conspicuous lines	
In 10 feet	1/4 inch
In 40 feet or more	1/2 inch
Variations from horizontal lines	
In 10 feet	1/4 inch
In 20 feet	3/8 inch
In 40 feet or more	1/2 inch
Variations in cross sectional dimensions of thickness of walls	
Minus	1/4 inch
Plus	1/2 inch

3.2.5 Cutting and Fitting

Full units of the proper size shall be used wherever possible, in lieu of cut units. Cutting and fitting, including that required to accommodate the work of others, shall be done by masonry mechanics using power masonry saws. Concrete masonry units may be wet or dry cut. Wet cut units, before being placed in the work, shall be dried to the same surface-dry appearance as uncut units being laid in the wall. Cut edges shall be clean, true and sharp. Openings in the masonry shall be made carefully so that wall plates, cover plates or escutcheons required by the installation will completely conceal the openings and will have bottoms parallel with the masonry bed joints. Reinforced masonry lintels shall be provided above openings over 12 inches wide for pipes, ducts, cable trays, and other wall penetrations, unless steel sleeves are used.

3.2.6 Jointing

Joints shall be tooled when the mortar is thumbprint hard. Horizontal joints shall be tooled last. Joints shall be brushed to remove all loose and excess mortar. Mortar joints shall be finished as follows:

3.2.6.1 Flush Joints

Joints in concealed masonry surfaces and joints at electrical outlet boxes in wet areas shall be flush cut. Flush cut joints shall be made by cutting off the mortar flush with the face of the wall. Joints in unparged masonry walls below grade shall be pointed tight. Flush joints for architectural units, such as fluted units, shall completely fill both the head and bed joints.

3.2.6.2 Tooled Joints

Joints in exposed interior masonry surfaces shall be tooled slightly concave. Joints shall be tooled with a jointer slightly larger than the joint width so that complete contact is made along the edges of the unit. Tooling shall be performed so that the mortar is compressed and the joint surface is sealed. Jointer of sufficient length shall be used to obtain a straight and true mortar joint.

3.2.6.3 Door Frame Joints

On the exposed interior side of exterior frames, joints between frames and abutting masonry walls shall be raked to a depth of 3/8 inch. On the exterior side of exterior frames, joints between frames and abutting masonry walls shall be raked to a depth of 3/8 inch.

3.2.7 Joint Widths

Joint widths shall be as follows:

3.2.7.1 Concrete Masonry Units

Concrete masonry units shall have 3/8 inch joints.

3.2.8 Embedded Items

Spaces around built-in items shall be filled with mortar. Anchors, ties, wall plugs, accessories, pipe sleeves and other items required to be built-in shall be embedded as the masonry work progresses. Anchors, ties and joint reinforcement shall be fully embedded in the mortar. Cells receiving anchor bolts and cells of the first course below bearing plates shall be filled with grout.

3.2.9 Unfinished Work

Unfinished work shall be stepped back for joining with new work. Toothing may be resorted to only when specifically approved. Loose mortar shall be removed and the exposed joints shall be thoroughly cleaned before laying new work.

3.2.10 Masonry Wall Intersections

Each course shall be masonry bonded at corners and elsewhere as shown. Masonry walls shall be anchored or tied together at corners and intersections with bond beam reinforcement and prefabricated corner or tee pieces of joint reinforcement as shown.

3.2.11 Partitions

Partitions shall be continuous from floor to underside of floor or roof

deck where shown. Openings in firewalls around joists or other structural members shall be filled as indicated or approved. Where suspended ceilings on both sides of partitions are indicated, the partitions other than those shown to be continuous may be stopped approximately 4 inches above the ceiling level. An isolation joint shall be placed in the intersection between partitions and structural or exterior walls as shown. Cells within vertical plane of ties shall be filled solid with grout for full height of partition or solid masonry units may be used. Interior partitions walls over 4 inches thick shall be tied together with joint reinforcement. Partitions containing joint reinforcement shall be provided with prefabricated pieces at corners and intersections or partitions.

3.3 MORTAR

Mortar shall be mixed in a mechanically operated mortar mixer for at least 3 minutes, but not more than 5 minutes. Measurement of ingredients for mortar shall be by volume. Ingredients not in containers, such as sand, shall be accurately measured by the use of measuring boxes. Water shall be mixed with the dry ingredients in sufficient amount to provide a workable mixture which will adhere to the vertical surfaces of masonry units. Mortar that has stiffened because of loss of water through evaporation shall be retempered by adding water to restore the proper consistency and workability. Mortar that has reached its initial set or that has not been used within 2-1/2 hours after mixing shall be discarded.

3.4 REINFORCING STEEL

Reinforcement shall be cleaned of loose, flaky rust, scale, grease, mortar, grout, or other coating which might destroy or reduce its bond prior to placing grout. Bars with kinks or bends not shown on the drawings shall not be used. Reinforcement shall be placed prior to grouting. Unless otherwise indicated, vertical wall reinforcement shall extend to within 2 inches of tops of walls.

3.4.1 Splices

Bars shall be lapped a minimum of 48 diameters of the reinforcement. Welded or mechanical connections shall develop at least 125 percent of the specified yield strength of the reinforcement.

3.5 JOINT REINFORCEMENT INSTALLATION

Joint reinforcement shall be installed at 16 inches on center or as indicated. Reinforcement shall be lapped not less than 6 inches. Prefabricated sections shall be installed at corners and wall intersections. The longitudinal wires of joint reinforcement shall be placed to provide not less than 5/8 inch cover to either face of the unit.

3.6 PLACING GROUT

Cells containing reinforcing bars shall be filled with grout. Hollow masonry units in walls supporting plumbing, heating, or other mechanical fixtures, voids at door jambs, and other indicated spaces shall be filled solid with grout. Cells under lintel bearings on each side of openings shall be filled solid with grout for full height of openings. Lintels, and bond beams shall be filled solid with grout. Units other than open end units may require grouting each course to preclude voids in the units. Grout not in place within 1-1/2 hours after water is first added to the

batch shall be discarded. Sufficient time shall be allowed between grout lifts to preclude displacement or cracking of face shells of masonry units. If blowouts, flowouts, misalignment, or cracking of face shells should occur during construction, the wall shall be torn down and rebuilt.

3.6.1 Horizontal Grout Barriers

Grout barriers shall be embedded in mortar below cells of hollow units receiving grout.

3.7 BOND BEAMS

Bond beams shall be filled with grout and reinforced as indicated on the drawings. Grout barriers shall be installed under bond beam units to retain the grout as required. Reinforcement shall be continuous, including around corners, except through control joints or expansion joints, unless otherwise indicated on the drawings. Where splices are required for continuity, reinforcement shall be lapped 48 bar diameters. A minimum clearance of 1/2 inch shall be maintained between reinforcement and interior faces of units.

3.8 LINTELS

3.8.1 Masonry Lintels

Masonry lintels shall be constructed with lintel units filled solid with grout in all courses and reinforced with a minimum of two No. 4 bars in the bottom course unless otherwise indicated on the drawings. Lintel reinforcement shall extend beyond each side of masonry opening 40 bar diameters or 24 inches, whichever is greater. Reinforcing bars shall be supported in place prior to grouting and shall be located 1/2 inch above the bottom inside surface of the lintel unit.

3.8.2 Precast Concrete Lintels

Precast concrete lintels shall be as shown on the drawings. Lintels shall be set in a full bed of mortar with faces plumb and true. Precast lintels shall have a minimum bearing length of 8 inches unless otherwise indicated on the drawings.

3.9 ANCHORAGE TO CONCRETE

Anchorage of masonry to existing masonry walls shall be with dowels embedded into existing walls. Installation shall be by bonding the dowels into holes drilled into the wall. Holes approximately 1/8 inch greater in diameter than the dowels shall be drilled into the wall. Dowels shall be bonded in the drilled holes using epoxy resin grout injected at the back of the hole before installing the dowel and extruded to the collar during insertion of the dowel so as to completely fill the void around the dowel. Application by buttering the dowel shall not be permitted. The dowels shall be held in alignment at the collar of the hole, after insertion and before the grout hardens, by means of a suitable metal or plastic collar fitted around the dowel.

3.10 POINTING AND CLEANING

After mortar joints have attained their initial set, but prior to

hardening, mortar and grout daubs or splashings shall be completely removed from masonry-unit surfaces that will be exposed or painted. Before completion of the work, defects in joints of masonry to be exposed or painted shall be raked out as necessary, filled with mortar, and tooled to match existing joints. Immediately after grout work is completed, scum and stains which have percolated through the masonry work shall be removed using a high pressure stream of water and a stiff bristled brush. Masonry surfaces shall not be cleaned, other than removing excess surface mortar, until mortar in joints has hardened. Masonry surfaces shall be left clean, free of mortar daubs, dirt, stain, and discoloration, including scum from cleaning operations, and with tight mortar joints throughout. Metal tools and metal brushes shall not be used for cleaning.

3.10.1 Concrete Masonry Unit Surfaces

Exposed concrete masonry unit surfaces shall be dry-brushed at the end of each day's work and after any required pointing, using stiff-fiber bristled brushes.

3.11 PROTECTION

Facing materials shall be protected against staining. Before starting or resuming, top surface of masonry in place shall be cleaned of loose mortar and foreign material.

-- End of Section --